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10/797,555	03/10/2004	Eun-Tae Won	678-1216	4407

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THE FARRELL LAW FIRM, LLP
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EXAMINER

BEHNCKE, CHRISTINE M

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3661

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No. 10/797,555	Applicant(s) WON ET AL.	
Examiner CHRISTINE M. BEHNCKE	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 11 March 2009.
- 2a) This action is **FINAL**.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,4,5,9,14,15 and 51-57 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1, 4, 5, 9, 14, 15, and 51-57 is/are rejected.
- 7) Claim(s) 55 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application
- 6) Other: non-patent literature (1).

DETAILED ACTION

This office action is in response to the Amendment and Remarks filed 11 March 2009, in which claims 1, 4, 5, 9, 14, 15, and 51-57 were presented for examination.

Response to Arguments

Applicant's arguments with respect to claims 1, 14, 54 and 56 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

Claim 55 is objected to because of the following informalities: the claim lacks antecedent basis for the limitation "the weather sensor"; a weather sensor was not claimed in the independent claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 4, 9, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutter, US 6,792,351, in view of Dube, et al., "Signal Stability based Adaptive Routing (SSA) for Ad-Hoc Mobile Networks", University of Maryland, December 1996.

(Claim 1) Lutter describes a method for routing a vehicle management information on an ad-hoc network from a source vehicle having an event by a nearby vehicle, comprising the steps of: receiving a vehicle management information message including vehicle management information having at least one of vehicle position, direction, and speed information from a source vehicle having the event and a routing

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condition (column 4, lines 7-17, 30-41); searching at least one of vehicle position, direction and speed information including in the received vehicle management information (column 4, lines 18-29); identifying whether its own vehicle management information of the source vehicle satisfies the searched at least one of vehicle position, direction and speed information (column 4, lines 18-41); displaying the event of the source vehicle on a monitor based on a result of the identifying step (column 4, lines 18-29 and column 3, lines 26-33); and routing the received vehicle management information message of the source vehicle to vehicles after identifying the routing condition (column 4, lines 30-40). Lutter describes the message including an indicator of the type of message being sent, but does not specify that the routing condition includes a routing type. Dube et al. teaches an adaptive routing protocol used in ad hoc networks, wherein the transmitted and received message includes a routing condition, the routing condition being a routing type for initiating one of a forward routing, a flooding routing, and a broadcasting routing (sections 4.2-4.3). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Lutter with the teachings of Dube et al, because as Dube et al. suggests, it is important for proper packet handling and transmission for the message types to be distinguished (broadcasted, flooded messages), one of the most logic means of distinguishing them is by identifying the type in the message (section 4.3).

(Claim 4) Lutter further describes the step of including at least one of position and direction of the source vehicle in the vehicle management information (column 4, lines 7-18 and column 2, line 64-column 3, line 17); and creating the vehicle

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management information using at least one of the vehicle driving information and vehicle safety information of the source vehicle (column 2, line 64-column 3, line 17).

(Claim 9) Lutter further describes wherein the routing condition includes ID (identification) and routing area information of a routing vehicle, and a message reception condition includes ID information of a destination vehicle (column 2, lines 35-45).

(Claim 14) Lutter describes an apparatus of a nearby vehicle for routing vehicle management information on an ad-hoc network from a source vehicle having an event, the apparatus included in the nearby vehicle (figure 1) and comprising: a receiving for receiving a vehicle management information message from the source vehicle (column 4, lines 7-17, 30-41, transmitter 52 and receiver 50), the vehicle management information message including a vehicle management information having at least one of vehicle position, direction and speed information from the source vehicles (column 4, lines 7-17, 30-41), and a routing condition (column 4, lines 7-17, 30-41); and a communicator for determining whether to route based on the received vehicle management information message (column 4, lines 18-41), displaying a result if vehicle management information of the nearby vehicle satisfies the received vehicle management information of the source vehicle, and routing the received vehicle management information message to nearby vehicles (column 4, lines 18-40 and column 3, lines 26-33). Lutter describes the message including an indicator of the type of message being sent, but does not specify that the routing condition includes a routing type. Dube et al. teaches an adaptive routing protocol used in ad hoc networks, wherein

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the transmitted and received message includes a routing condition, the routing condition being a routing type for initiating one of a forward routing, a flooding routing, and a broadcasting routing (sections 4.2-4.3). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Lutter with the teachings of Dube et al, because as Dube et al. suggests, it is important for proper packet handling and transmission for the message types to be distinguished (broadcasted, flooded messages), one of the most logic means of distinguishing them is by identifying the type in the message (section 4.3).

(**Claim 15**) Dube further teaches wherein the routing condition is contained in a header of the information message (figure 3), and the information being transmitted is contained in the main body of the information message (section 4.2). It would have been obvious to one of ordinary skill to use the packet format as taught by Dube et al. because Type of routing in the heading allows the vehicle to quickly process the packet for further transmission.

(**Claim 53**) Lutter further describes wherein the event of the source vehicle is one of warning of collision possibility or forward traffic accidents (figures 5 and 6, column 4, lines 18-40).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lutter in view of Dube et al., and in further view of Kiendl et al., US 6,654,681.

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Lutter in view of Dube et al. describes method for forming an ad hoc network between vehicles to communicate vehicle management information and transmitting vehicle status information. Lutter does not specifically describe creating the vehicle management information including the vehicle safety information and vehicle driving information of the nearby vehicles. However, Kiendl et al. teaches a vehicle ad hoc network that teaches vehicles transmitting messages containing vehicle safety information based on the vehicle's own driving information and the vehicle driving information of the nearby vehicles (column 2, lines 15-30). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method Lutter in view of Dube et al. with the teachings of Kiendl because as Kiendl suggests, transmitting information regarding vehicle safety status increases the efficiency and relevancy of the information transmitted, allowing vehicles to receive and determine the most efficient route of travel and warn drivers of potential unsafe driving events (column 3, lines 39-59 and column 4, lines 23-39).

Claim Rejections - 35 USC § 103

Claims 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutter in view of Dube et al., and in further view of Nuesser, US 6,870,487.

Lutter in view of Dube et al. describes the method and apparatus as applied to claims 1 and 14. Lutter further describes wherein the transmitted information is used to update the data stored in the vehicle, map routes (figures 6 and 7). Neither reference explicitly describes updating before transmitting the message. However, Nuesser teaches a system for transmitting data packets between vehicles, the data packets

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including vehicle management information (figure 4) and a routing condition (figures 3 and 4), wherein the vehicle management information and routing condition are updated before transmitting the vehicle management information message (column 3, lines 9-25 and column 9, lines 25-40). It would have been obvious to one of ordinary skill in the art at the time of the invention to update the vehicle management information with received data before transmitting the message to check for accuracies, as Nuesser suggests, adjust the message information routing condition counter or included data based on sensed data (column 25-40).

Claim Rejections - 35 USC § 103

Claims 54-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutter in view of Dube et al., in further view of Breed, US 2003/0191568.

(Claims 54 and 56) Lutter describes a method and an apparatus for transmitting vehicle management information message on an ad-hoc network to nearby vehicles by a source vehicle, collecting at least one of at least one of current position, direction, and speed information of the source vehicle with a Global Positioning System (GPS) receiver and an electronic map (figure 4, column 4, lines 7-17, 30-41); recognizing an event (column 4, lines 7-17, 30-41); generating a vehicle management information message including vehicle management information having at least one of the vehicle position, the direction, and the speed information from the source vehicle and a routing condition (column 4, lines 7-17, 30-41); and transmitting the vehicle management information message to the nearby vehicles (column 4, lines 30-40). Lutter describes the message including an indicator of the type of message being sent, but does not

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specify that the routing condition includes a routing type. Dube et al. teaches an adaptive routing protocol used in ad hoc networks, wherein the transmitted and received message includes a routing condition, the routing condition being a routing type for initiating one of a forward routing, a flooding routing, and a broadcasting routing (sections 4.2-4.3). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Lutter with the teachings of Dube et al, because as Dube et al. suggests, it is important for proper packet handling and transmission for the message types to be distinguished (broadcasted, flooded messages), one of the most logic means of distinguishing them is by identifying the type in the message (section 4.3). Neither Lutter nor Dube et al. describe the event being a traffic accident of the own vehicle. However, Breed teaches a vehicle collecting information of the vehicle's position using a gyro sensor ([0048]), collecting additional information of a driver's vehicle with an optional unit having a radar or a camera mounted on the source vehicle ([0402]); and recognizing a traffic accident of the driver's vehicle based on the collected additional information ([0035], [0208]).

(Claims 55 and 57) Breed further teaches collecting various weather condition information with a weather sensor (weather sensor 88); generating a warning message according to the various weather condition information ([0521]); and transmitting the warning message to nearby vehicles ([0208], [0522]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the invention of Lutter and Dube with the teachings of Breed because as Breed suggests: gyro sensor in the navigation apparatus for the suggested

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purpose as a backup sensor activated and used when the GPS satellites are blocked ([0049]) and detecting and notifying other vehicles of weather and accident conditions decreases the potential for further accidents ([0135]-[0139]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE M. BEHNCKE whose telephone number is (571)272-8103. The examiner can normally be reached on 8:30 am- 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas G. Black/
Supervisory Patent Examiner, Art Unit 3661